What is claimed is:

1. A low noise pneumatic tire, wherein a band-shaped sound absorbing material formed of a porous material whose apparent density defined in JIS K6400 is in a range of 10 to 70 kg/m^3 is attached to the inner surface of a tread by use of an elastic fixing band.

2. The low noise pneumatic tire according to claim 1, wherein a band-shaped sound absorbing material is fixed all around the entire circumference on the inner surface of a tread by use of an elastic fixing band.

3. The low noise pneumatic tire according to any one of claims 1 and 2, wherein an irregular surface having step heights of 20 mm or less is formed on the inner peripheral surface of the band-shaped sound absorbing material.

4. The low noise pneumatic tire according to any one of claims 1 to 3, wherein a second porous material whose sound absorption coefficient defined in JIS A1405 at a frequency of 200 Hz is 10 % or more, is layered on a cavity-facing surface of the band-shaped sound absorbing material.

5. The low noise pneumatic tire according to claim 4, wherein the band-shaped sound absorbing material has a thickness in a range of 5 to 45 mm, and the second porous material has a flat surface and has a thickness in a range of 5 to 45 mm.

6. The low noise pneumatic tire according to claim 4, wherein an irregularity having step heights of 20 mm or less is formed on a surface of the second porous material.

7. The low noise pneumatic tire according to claim 6, wherein the band-shaped sound absorbing material has a thickness in a range of 5 to 45

mm, and the second porous material has a thickness in a range of 5 to 45 mm.

8. The low noise pneumatic tire according to any one of claims 1 to 3, wherein a porous material whose sound absorption coefficient defined in JIS A1405 at a frequency of 200 Hz is 10 % or more, is layered on both inner and outer surfaces of the band-shaped sound absorbing material.

9. The low noise pneumatic tire according to any one of claims 1 to 8, wherein the elastic fixing band has a stretching mechanism, which automatically adjusts a circumferential length of the elastic fixing band, in at least one location on the circumference of the elastic fixing band.

10. The low noise pneumatic tire according to claim 9, wherein the stretching mechanism is formed of an elastic spring mechanism.

11. The low noise pneumatic tire according to claim 9, wherein the stretching mechanism is formed by coupling both ends of the elastic fixing band with each other in a manner that the elastic fixing band can slide.